

# 'Fortress Natomas'

## Levees give false sense of security, critics say

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***Published March 29, 2004***

*Second of three parts*

Surrounded by a 41-mile ring of reinforced levees, the Natomas basin is widely viewed as one of the best-bulwarked communities in the Central Valley.

Since 1986, various government agencies have spent more than \$180 million on fortified levees, drainage systems and other defenses for an area that now houses nearly 60,000 people. Depending on the largess of Congress and state lawmakers, they hope to spend an additional \$150 million in years to come.

"We jokingly refer to it as 'Fortress Natomas,' " said Carol Shearly, a Sacramento city planner. "The basin is pretty well protected - better than most parts of the city."

But as Natomas grows and engineers learn more about the capricious nature of floods in this wide, deep basin, many are questioning the wisdom of this fortress mentality.

In a recent survey, the U.S. Army Corps of Engineers found four spots along the Sacramento River where erosion threatens the Natomas levee. Although erosion is a problem across the Valley, Natomas generates special concerns because a flood there would inundate the basin 23 feet deep or more - and few residents carry flood insurance.

To top it off, other communities are starting to copy the Natomas development template. South of Marysville, developers are building 12,000 homes in Plumas Lakes, which flooded in 1997. New homes also are planned or already going up behind levees in flood-prone parts of Yuba City and the Delta.

"People need to realize building in a flood plain is a bad idea," said Mark Charlton, deputy district engineer at the U.S. Army Corps of Engineers in Sacramento. "Building in a flood plain puts people, their lives, their residences at risk ... We are trying to make greater efforts to explain this risk to city councils, supervisors, but it is difficult."

Part of the difficulty, say some critics, is that Congress continues to spend millions to protect existing development behind levees, which encourages new building in those areas. Bigger, stronger levees leave residents assuming they are fully protected from floods, an assumption that many specialists say is foolhardy.

"In Natomas, everybody talks about being safe, with the highest flood protection in the area. So what?" said Jeff Mount, a member of the State Reclamation Board and a geologist at the University of California, Davis. "There are still serious odds of being flooded one day, and a flood there would be particularly destructive."

Across the political spectrum, engineers and environmentalists are torn over these trends. Deep flood plains - places that could potentially flood 15 feet or 20 feet deep - pose serious dangers. When a levee breaks in a deep flood plain, people have less time to escape, homes are completely destroyed.

Yet, tens of thousands of people are moving to the Central Valley, many of them driven inland by high housing prices in coastal California - an earthquake zone.

"That raises a tough question: Is there any place in the Central Valley that is safe to develop?" said Michael Picker, who dealt with Natomas development issues as chief of staff to Joe Serna Jr., Sacramento's late mayor. "Or do we want to allow large populations to move to the foothills, dependent on the infrastructure that now exists in the Central Valley?"

Sacramento's leaders wrestled with these same questions prior to 1995, when the City Council put the final stamp on 23,000 new homes in North Natomas, the area north of Interstate 80.

Before the vote, a handful of environmentalists and the Corps of Engineers warned of the flood dangers. Others countered that Natomas was ripe for expansion and would offer people a chance to live near downtown.

A decade later, nearly everyone agrees that North Natomas has lived up to its market expectations. Developers have sold 10,000 homes there; 13,000 more are being built.

Developers also have plans for a major industrial park in the Sutter County part of the basin, and the city of Sacramento wants to annex Natomas land for more homes, offices and shopping centers.

"Frankly, I think the stigma that North Natomas carries is a little unwarranted," said Mayor Heather Fargo, who has lived in South Natomas since 1979.

"Everybody in Sacramento depends on levees."

Mike Winn, one of the largest developers in Natomas, said he became convinced that the flood risks in Natomas were little different from the rest of Sacramento. He said that officials for the corps and the Sacramento Area Flood Control Agency had provided assurances that the levees would be substantially upgraded.

"We have to rely on SAFCA and the corps for guidance in these areas," said Winn, now a vice president for Reynen & Bardis Development LLC. "If they have determined that an area is safe, then we don't see any problem with developing that area."



A disk harrow lies idle near West El Camino Avenue and Orchard Lane as apartments replace farm fields. Despite concerns about building on a flood plain, the Sacramento City Council in 1995 approved construction of 23,000 new homes for North Natomas.

Sacramento Bee/Randy Pench

Yet corps officials insist they never endorsed the development of Natomas. They say they only helped build the flood structures that provide the basin with 100-year protection - in other words, less than 1 chance in 100 of flooding in any given year.

Today, one SAFCA leader who lives in North Natomas says he does so with some trepidation.

"It is important for people to understand: Someday this levee is going to be overtopped," said Francis "Butch" Hodgkins, SAFCA's executive director. "I don't care how strong that levee is, one day it will happen."

## **Water, water, everywhere**

Seen from the air, the Natomas basin is a checkered quilt lining a bathtub. Grain fields and pasture cover the northern half. Homes blanket the south.

The basin is so large - 86 square miles, split between Sacramento and Sutter counties - that, from a bird's perspective, landmarks like Arco Arena and Sacramento International Airport seem small. So do the 41 miles of levee that ring the basin and hold back four waterways - the Sacramento and American rivers, the Natomas East Main Drain and the Natomas Cross Canal.

Early mapmakers labeled Natomas "American Lake." Before the levees were built, overflows from miles around would spill into the lake and stay there for months. The resulting wetlands became home to thousands of migrating waterfowl, which in turn became food for early settlers.

That changed in the early 1900s, when the Natomas Company, a mining and dredging firm, started developing the basin for tenant farming. The company formed Reclamation District 1000. Soon it was building some of the widest and tallest levees in the Sacramento Valley.

According to Jim Clifton, the current manager of Reclamation District 1000, "There has never been a levee break on this system since it was built in 1915." But, he notes, there have been some close calls.

A 1955 photo from The Bee shows dozens of men dumping rocks and plastic sheet onto the levee of the Natomas Cross Canal, barely restraining waters that had flooded farms to the north.

In 1986, the storm of the century swelled the Sacramento and American rivers, and levees in Natomas and other Sacramento neighborhoods started leaking like tea bags.

Clifton recalls standing on the Natomas levee near Verona and seeing "clear water running right through the thing." Over the next 10 hours, contractors for the corps dumped 57,000 tons of rock onto the levee, possibly averting disaster.

The '86 flood sent a jolt through Sacramento. At the peak of the runoff, the American River carried 15 percent more water than its levees were designed to handle. Corps engineers determined that Folsom Dam was inadequate to handle a

100-year flood, and so the Federal Emergency Management Agency issued new maps restricting development in Natomas and making 400,000 Sacramento residents subject to federal flood insurance requirements.

In a matter of days, the plans of the region's biggest land speculators and developers - Angelo Tsakopoulos, Gregg Lukenbill and others - were put on hold. In Natomas, 24,000 people already were living in the south part of the basin, below Interstate 80.

Up north, Lukenbill was planning to build a new arena for the Sacramento Kings, seen as a catalyst for the basin. Not wanting to perch his stadium on stilts, Lukenbill proposed a new levee to protect his arena property, leaving land farther north unprotected.

Environmentalists loved it, because it would limit Sacramento's northward sprawl. But other property owners howled, fearing their land values would be sacrificed.

Lobbied by city officials and the building industry, U.S. Reps. Vic Fazio and Robert Matsui struck an unprecedented deal.

The two Democrats pushed through federal legislation giving Sacramento and Natomas a four-year reprieve from the higher flood-insurance costs, the first such exemption in the country. FEMA officials protested what they called "a significant subsidy for new construction," but Fazio and Matsui prevailed.

As part of the deal, Sacramento city and county agreed to place a moratorium on new construction in Natomas while the congressmen worked to get federal authorization to upgrade the basin's levees and drainage systems.

To speed up the process, SAFCA paid for the work out of its own pocket. Federal and state agencies since have reimbursed about \$21 million of that \$81 million total.

Looking back, Matsui says he doesn't regret helping Sacramento and Natomas out of a jam with FEMA. Natomas was poised to develop anyway and other areas of the country, he noted, get breaks after natural disasters.

"We do that in Florida with the hurricanes," he said. "We do that in the Midwest when there is massive flooding. We do that in California when there are earthquakes."

Winn, whose development companies have built most of the new homes in Natomas, says that years of battles finally resulted in needed housing near downtown. As he recalls it, the only people who ever raised fears about flooding were people "who didn't want any growth."

No-growth advocates weren't the only ones who warned about Natomas' dangers. In 1995, the same year the City Council approved a revised development plan for Natomas, a panel of scientists for the National Research Council released a 234-page report on American River flood dangers that devotes an entire chapter to Natomas.

In particular, the scientific panel notes that Natomas lies at a lower elevation than the surface of the Sacramento River. As a result, a levee break would fill most of the basin deeper than 13 feet, the report states.

"As a site for growth the Natomas basin is well situated ... but it is poorly situated in terms of chronic flood risk," the research council concludes. Federal agencies, the panel adds, should not "accede to local desires to develop the Natomas basin under the illusion that the threat of flooding can be eliminated."

## **Protective measures**

Drive through North Natomas now and you find yourself on curlicue streets like Duckhorn Drive and Goosehaven Lane. You pass gleaming two-story homes, apartment complexes, office buildings and schools.

As of February, North Natomas developers had sold 7,610 single-family houses and had finished an additional 1,400 apartments. "We have 21,000 residents now, so we are a third of the way there," said Shearly, the Sacramento city planner.

Developer surveys show that most new homeowners chose Natomas for its convenient location - close to downtown, the airport and two interstate highways. Few seem to worry about flood risks, reflected by the fact that only 13 percent of homeowners in Natomas maintain flood insurance on their property, according to FEMA data.

Many share the views of Marni Leger, a South Natomas resident and board member of a local community association. Leger dropped her flood insurance when FEMA made it optional for Natomas property owners in 1998, after the basin's levees were upgraded.

"Frankly, I think a flood problem here would be more likely caused by a terrorist attack on Folsom Dam than a breach in the levee," she said.

City officials say there is reason for confidence.

Following the 1986 floods, the corps built berms for some seeping levees and fortified others with a type of poured slurry wall to plug leaks. Developers and homeowners also have spent \$100 million improving Natomas' drainage, Clifton said, including the addition of several lakes, detention basins and pumping plants capable of handling a 100-year storm.

"Reflecting the fact this area used to be a lake, we have incorporated lakes and water features into the plan," said Shearly. "So there is a considerable amount of money being spent to protect the area from flooding."

Natomas also includes some emergency response features not found in other parts of Sacramento. The city required developers of Natomas Marketplace to construct the shopping center with public access to the roofs of its two-story buildings, in case people need refuge during a flood.

In addition, each North Natomas neighborhood must include a percentage of buildings that are two stories or higher.

As Natomas builds out, engineers keep learning more about the flood risks it faces from four sides. Despite its moderate flow in recent years, the Sacramento River has

gouged holes in the Natomas levee, including one spot the corps considers in critical shape. State and local engineers are studying the possibility of a flood descending on Natomas from farm districts to the north.

In 1997, a levee break about 20 miles north on the Feather River flooded part of Yuba County down to the Bear River. The rising water caused part of the levee on the north side of the Bear to collapse and nearly breached the south side. Had the levee broken on the south side, water would have gushed south toward Natomas.

"You could have that scenario again," said Clifton, who keeps a historic print on his office wall depicting a submerged Sacramento during an 1850 flood. "Not much has changed in the last seven years."

## Yuba follows suit

Up in Yuba County, local officials disagree that little has changed. Over the past seven years, local, state and federal agencies have spent more than \$33 million beefing up levees along the Feather and the Yuba; an additional \$8 million is planned for this year.

Those improvements make existing residents safer. They also attract new neighbors.

Along Highway 70, Beazer Homes, one of the nation's largest home builders, has started construction on the first of 12,000 residences planned for Plumas Lakes. A few weeks ago, the ping of hammers echoed through the air as crews worked on homes, shopping centers and a new elementary school.



Twelve thousand homes are planned for the Plumas Lakes subdivision near Arboga, where a flood killed three people in 1997. Local, state and federal authorities have since spent more than \$33 million bolstering levees along the Feather and Yuba rivers.

Sacramento Bee/Randy Pench

Yuba residents watch the construction and scratch their heads in wonder.

"These people don't know what they are getting themselves into," said Mike Bishop, an Arboga resident whose house was flooded seven years ago. Bishop easily recounts the destructive power of the 1997 levee break: three people dead; water up to his roofline; scores of drowned horses and cattle tangled up in barbed wire.

"Back then, you couldn't give your property away," Bishop said. Now, he says, developers make him offers every few weeks.

Don Schrader, a Yuba County supervisor, said Plumas Lakes developers are simply following a pattern set elsewhere in the Valley. County supervisors, he says, are powerless to stop the building, because a previous board approved the Plumas Lakes Specific Plan back in 1993.

"It is just like the Natomas area. Just like Yuba City," said Schrader, testifying before the State Reclamation Board during a recent meeting.

"In 20-20 hindsight, we would not be building where we are building," he added. "Unfortunately, decisions were made long before I took office."

Many flood experts say they could accept such development if locals paid the bulk of the flood protection costs and accepted all liability. In Yuba, they don't.

Of the money spent since 1997, \$23 million has come from the federal government and \$5 million has come from state taxpayers. Another \$108 million may be needed to upgrade Yuba levees, the corps announced last week.

In addition, the 3rd District Court of Appeal found the state liable for a 1986 levee break in Yuba County, a ruling that could cost taxpayers hundreds of millions of dollars.

"Is it a bad decision to build in a deep flood plain? That is a local decision that locals have to make," said Doug Plasencia, an Arizona engineer who previously headed up the Association of State Floodplain Managers.

"But when you look at all the federal investments in these areas, you have to ask yourself: Why are we investing in such high-risk areas?"

This spiral isn't confined to the Central Valley. Eleven years ago, the Midwest floods of 1993 killed 48 people, damaged 45,000 homes and caused more than \$15 billion in damage, much of it in Missouri's Chesterfield Valley. Congress spent billions on disaster relief and levee improvements, and "now there is massive new development in the Chesterfield Valley," Plasencia said.

The cycle is hard to reverse, according to Plasencia. Most American cities were built around waterways and maritime commerce back when flood risks were little understood. Now there is a push to build in adjacent flood plains instead of leapfrogging farther out. At the least, he said, state and federal officials should make sensible development a prerequisite for tapping into government flood dollars. "Right now," he said, "we have a total disconnect."